IMPORTANT SAFETY INFORMATION FOR USERS OF THE REECHCRAFT, BRACING SYSTEM
PLEASE READ BEFORE USE

Panel Jack™ Pro System

BRACING, ALIGNMENT AND SCAFFOLDING EQUIPMENT

ReechCraft™

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Product overview

The Reechcraft Panel Jack Pro System is a product designed for use with Insulating Concrete Formwork (ICF) applications. Some terms or units of measurement used in this leaflet will have been influenced by its American origin, please contact Reechcraft (designers and manufacturers) or PolySteel UK (UK Licensee) should any clarification be required.

Reechcraft
474 45th Street South
PO Box 2426
Fargo,
North Dakota 58108
USA
001-888-600-6160
001-701-232-6666
www.reechcraft.com

PolySteel UK
Cheltenham
GL51 7EJ
UK
01242 692335
info@polysteel.co.uk
www.polysteel.co.uk

The system is designed to comply with OSHA scaffold standards. It's primary duty is to brace and align an ICF wall whilst the wall is being built to when the concrete is placed within the wall and until the concrete has cured sufficiently for the then safe removal of the bracing from its duty. The secondary duty of the system is to provide a walking platform up to 2mtrs from the floor for pump operatives to work from. It is important not to exceed this maximum working height with the intention of complying with the CITB "A guide to Practical Scaffolding" . Persons using the system must follow the guidelines in this document and apply adequate risk assessment and methodology to comply with good working practice and regulations covered by the current the Health and Safety at Work Act. If a working platform is required over 2mtrs, this will have to be provided for by conventional scaffolding.

Performance and specific requirements

This system allows the contractor / builder a means to build ICF walls fast, straight and plumb whilst ensuring a safe working method and providing a professional job site appearance. The system is designed for use within an excavation or at ground level to support people in winds up to 40mph. Any other use is not recommended and at the users own risk.

The spacing between each panel jack should not exceed 1.5mtrs and **The duty rating** for each **Panel Jack Pro System** is 136kg each or 2 people per span plus materials including forms and rebar sufficient for three courses.

Scaffold plank and handrail material is not provided as part of the system but should be scaffold planks made of solid timber and hired in from a reputable, competitive supplier closest to the site.

Component description

Careful consideration has been given to the variety of applications that job site conditions and wall forming create to develop a product well suited for the intended use.

The basic system is represented by the following fundamental components:

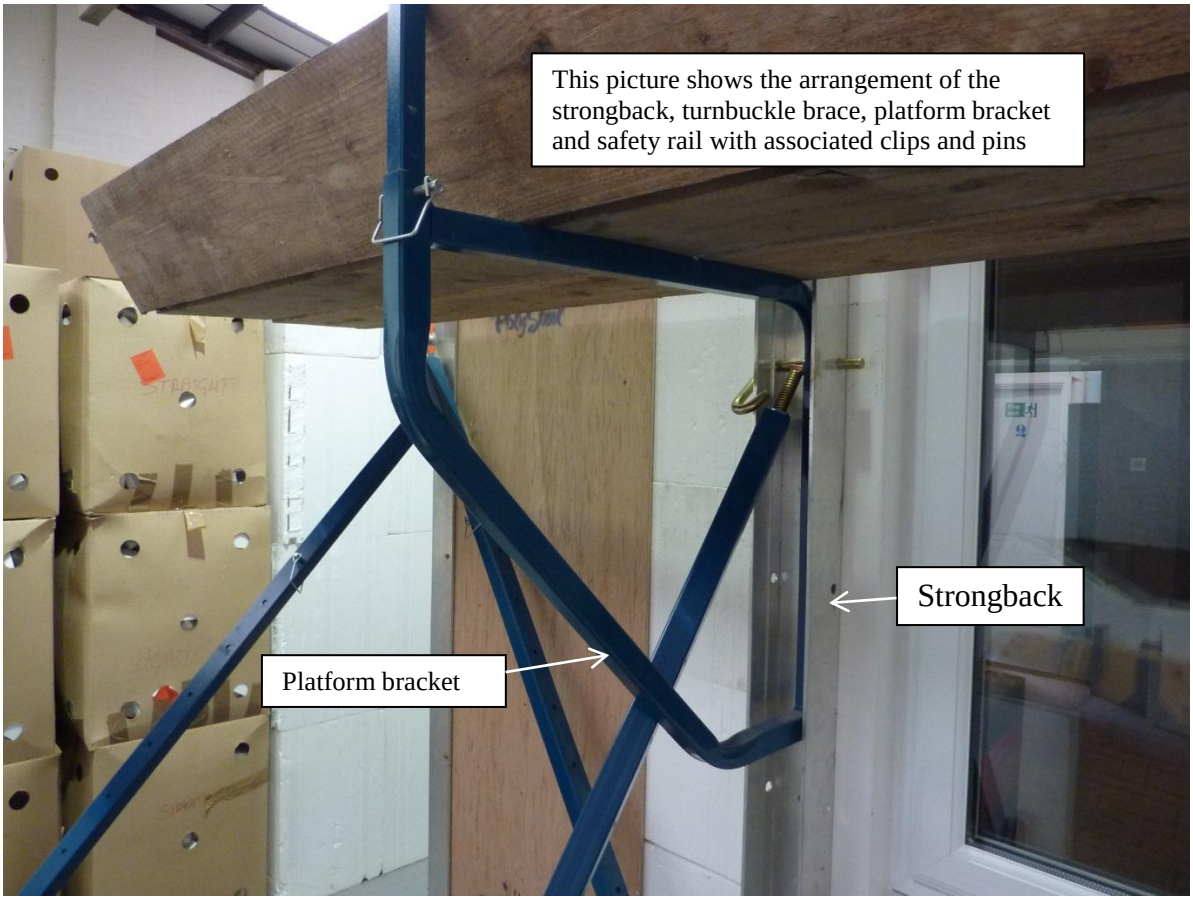
• **Strongback** – The main vertical component of the system is an extruded aluminum channel intended to be secured to the footing or slab at the base of the wall with the two removable feet pre drilled for fixing, and to the wall forms through the provided 38mm x 4.5mm slots at two points per course. PolySteel suggests that hex head self drilling / tapping type screws No 10 gauge, 50mm long (available from PolySteel) are used to fasten the strongback to the ICF form. Holes through the sides of the strongback drilled 300mm apart provide the means for independently mounting the platform bracket and/or the diagonal turnbuckle brace to the strongback channel through the use of the provided 14mm x 150mm platform pin held in position with a clip or by gravity.

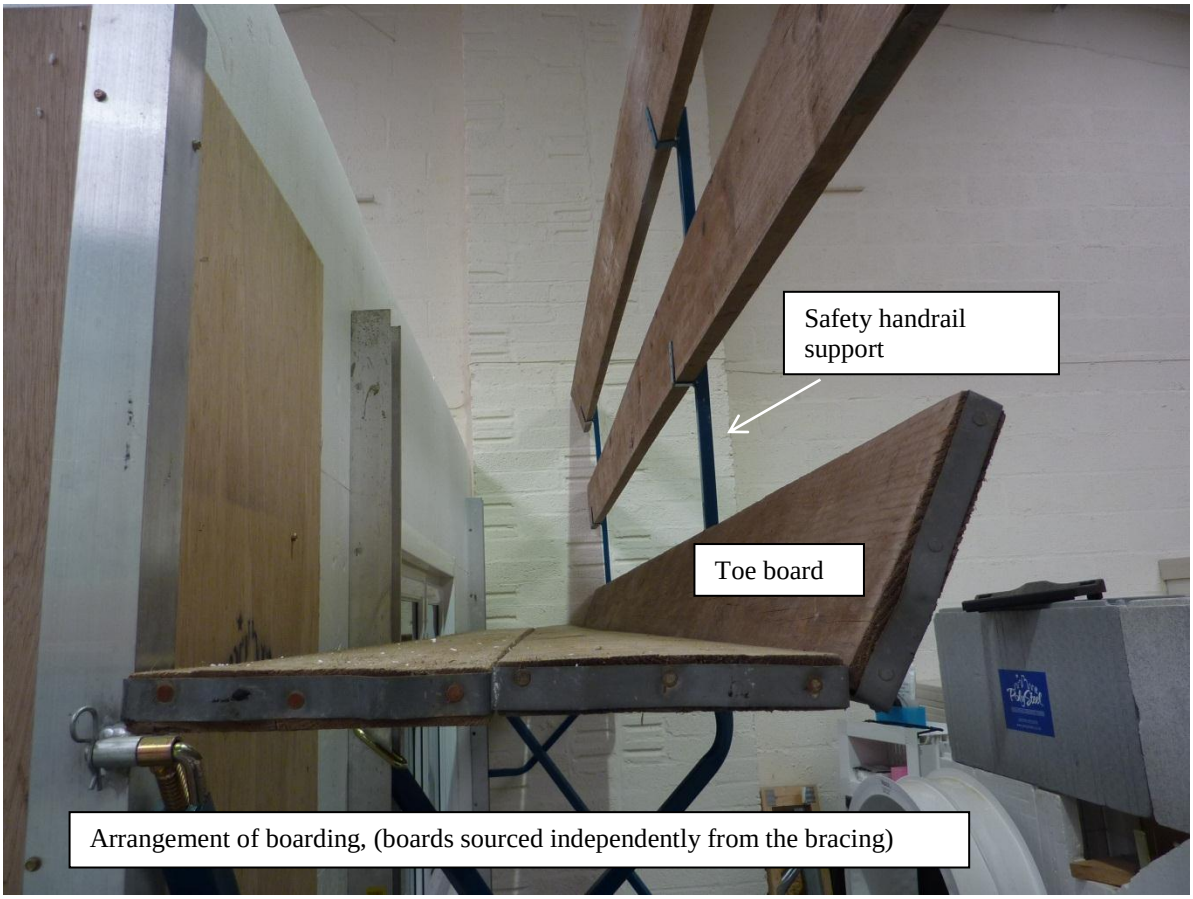
• **Diagonal Turnbuckle Brace** – The diagonal component of the system has three fixed adjustment positions to accommodate the 2.4mtr system. These fixed adjustment positions place the platform bracket between 800mm and 1200mm below the top of the wall, ensure that the walking platform is no more than 2mtr above floor level to comply with safety regulations. The diagonal turnbuckle brace should be placed at 45degrees +/- 5deg. to accommodate irregular ground or floor. In addition, 150mm of fine adjustment can be achieved by twisting the turnbuckle brace. Approximately 50mm of the threaded portion of the screw should be visible to ensure equal push and pull of the wall. A swivel foot assembly is mounted at the base of the diagonal turnbuckle brace and provides 156 square centimeters of surface area to support the loads. The base plate is equipped with holes sufficient to anchor the diagonal turnbuckle brace to soil or secure it to the footing, slab or intermediate floors. There is one 35mm diameter hole and four 6.5mm holes per base plate.

• **Platform Bracket** – the platform bracket is a fixed position bracket designed for strength and durability. The platform bracket incorporates a 23mm diameter hole to provide secure attachment of the platform bracket to the strongback through the corresponding holes provided in the strongback. The platform bracket is designed to accept two standard (about 35mm x 225mm) scaffold planks and another standard scaffold plank on angle as a toe board.
Use appropriate lapping of scaffold boards to prevent chance of a trap as with conventional scaffolding. The vertical handrail support can accommodate scaffold planks in a horizontal plane to guard operators against the risk of falling. The scaffold planks or similar material used as the guard rails should be contiguous to afford good protection against the risk of falling. There are 6mm holes are provided in the support brackets to secure the guardrails in place as required.

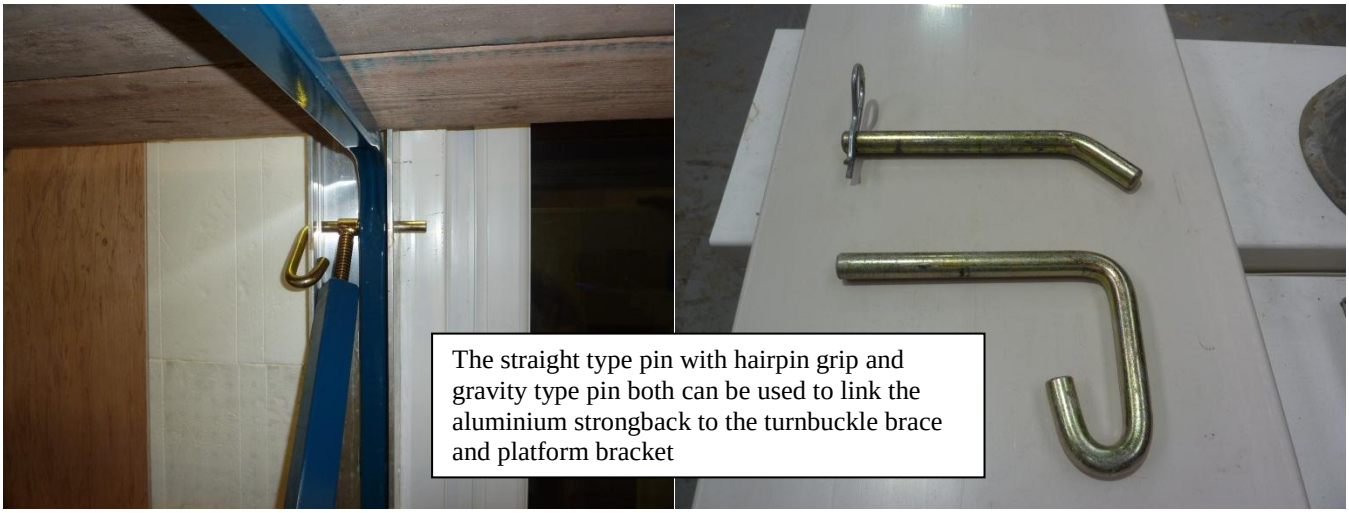
• **Mounting Hardware** – All mounting hardware or fasteners supplied with the system are SAE grade 2 and 14mm HR zinc plated mild steel.

Component description

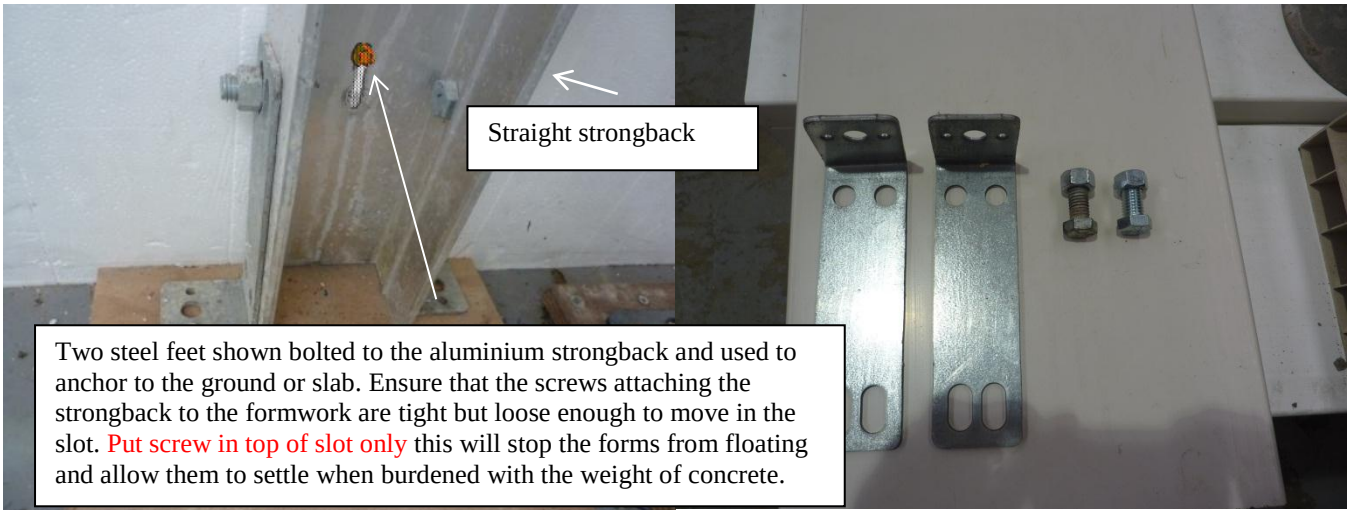

This picture shows the arrangement of the strongback, turnbuckle brace, platform bracket and safety rail with associated clips and pins
Strongback
Platform bracket



Component Description cont.

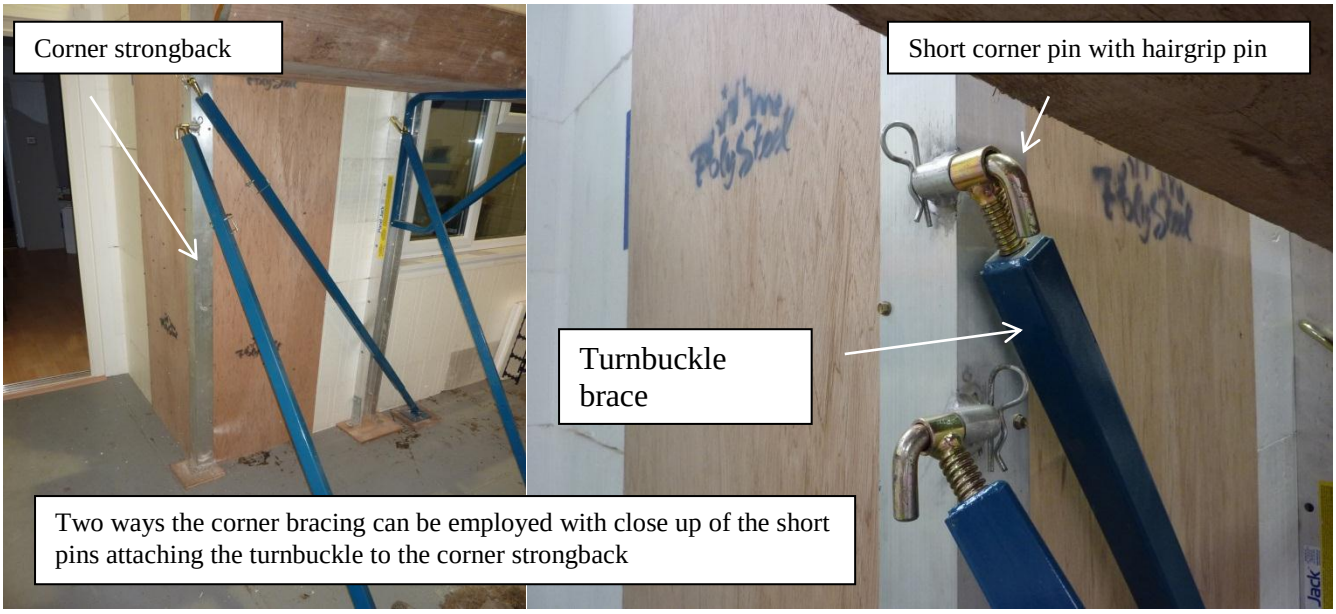


The straight type pin with hairpin grip and gravity type pin both can be used to link the aluminium strongback to the turnbuckle brace and platform bracket



Straight strongback

Two steel feet shown bolted to the aluminium strongback and used to anchor to the ground or slab. Ensure that the screws attaching the strongback to the formwork are tight but loose enough to move in the slot. Put screw in top of slot only this will stop the forms from floating and allow them to settle when burdened with the weight of concrete.



Corner strongback

Short corner pin with hairgrip pin

Turnbuckle brace

Two ways the corner bracing can be employed with close up of the short pins attaching the turnbuckle to the corner strongback

Preliminary considerations of use

• Review plans to determine the number of bracing units required for the project by starting with a bracing unit in the corner.

• Maximum spacing between the bracing is 1.5mtrs.

• Do not reduce the number of bracing units relative to the door or window openings. Instead, use additional bracing units to insure adequate support and ability to control the wall in areas where voids may occur.

• The bracing unit locations should be centered relative to the overall length of the wall, but offset relative to the changes in the direction of the wall. For example, at outside corners the first bracing unit in each direction should be located as close to the corner as form tie spacing will allow. Bracing on the inside corners a distance of not less than 675mm is required for the clearance of platform bracket and planking.

• For longer and taller walls, bracing on both sides of the wall is recommended.
NOTE: WOOD BRACING FROM THE GROUND TO THE UNDERSIDE OF THE PLANKING WILL BE REQUIRED AT THE CORNERS TO SUPPORT PLANKING OVERHANG.

Make workers aware and place caution notice where necessary reads:

CAUTION, THIS IS A BRACING AND ALIGNMENT SYSTEM
WITH WALKING PLATFORM ONLY
DO NOT LOAD, IT IS NOT A SCAFFOLD SYSTEM
Do not exceed the maximum rating of each unit 136kg

Practical use

Prepare the layout of the excavation, footings and wall form location in accordance with the wall designer and ICF installation procedures.

Gather the bracing components within the perimeter of the wall. Ensure that the diagonal turnbuckle braces are set to the fixed adjustment position relative to the intended height of the wall and that the fine adjusters are set to allow equal in and out adjustment of the wall after concrete is placed.
Install a minimum of three courses of ICF forms before erecting the bracing system.

Locate the positions for the bracing units at the base of the wall and center them on the form ties.
Stand the strongback in position and secure it to the footing.

PolySteel suggests that 2 x hex head self drilling / tapping type screws No 10 gauge, 50mm long are used screws per course of block, secure the strongback to the ICF forms by screwing into the form ties through the slotted holes in the back of the strongback, the screws should be located at the Top Of The Slot. Tightened to allow full compression of the form interfaces, but not allowing the form to float upwards.

Fasten the top of the Diagonal turnbuckle brace and platform bracket by using the 150mm platform with hairpin clip. Attach the brace and platform bracket assembly to the strongback at the appropriate height location relative to the height of the wall being formed. Refer to the **Panel Jack Pro System** drawings in the back of this user manual.

Hold a level parallel to the strongback at eyelevel and bring the strongback to within 1.5 degrees of plumb with the wall leaning in towards the perimeter and anchor the base of the diagonal turnbuckle brace. During this process it may be necessary to adjust the angle of the brace relative to the strongback or even to readjust the fixed position to suit the excavation.

Once all of the strongback and platform bracket and diagonal brace assemblies have been erected, planking can be set in place to continue erection of the wall.

As each consecutive course is set in place, ensure that a minimum of two screws per course is used to secure the strongback to the form units.

As the form stacking approaches the intended wall height, the planking can be moved up to the final position with the scaffold planking and guardrails safely in place, and the final course erection and preparations to pour the walls can be completed. OSHA requires scaffolding; to have handrails and toe boards if the workers feet are 1.8mtrs or more off the ground.

Once the erection is complete, do a final check of the vertical condition of the wall. Ultimately, a slight inward tilt allows for the easiest plumb adjustment after the pour. When the wall has been poured, final plumb and alignment adjustments can be made using the fine adjustment of the individual diagonal turnbuckle braces in conjunction with alignment and plumbing measures taken during the process.

Do not remove the bracing or backfill until the wall has reached sufficient cure in accordance with the wall designer’s direction, and intermediate floor and/or roof diaphragm have been installed.

Handling and maintenance

With and emphasis toward performance, value and ease of use, the materials used in the **Panel Jack Pro System** are the strongest, most lightweight and user friendly we could design. The painted parts of the product are finished by electrostatic coating to provide excellent durability and corrosion resistance. Reasonable handling and maintenance will result in years of dependable service.
Primary maintenance consists of periodic lubrication of the fine adjustment threaded portion at the top of the Diagonal Turnbuckle Brace and at the swivel at the bottom of the Diagonal Turnbuckle Brace.

WARNING! FAILURE TO READ AND FOLLOW ALL INSTRUCTIONS MAY RESULT IN SERIOUS INJURY OR DEATH. INSPECTION:
Inspect unit for damage before each use. Never use unit if parts are missing, cracked, bent or after being exposed to any corrosive agent. Label the unit “Dangerous – Do Not Use” and discard, or call manufacturer.

Handle all units with care. SET-UP AND USE:
Do Not Exceed the duty rating of this unit. The maximum safe weight load for each unit is 136kgs. Over loading could cause serious injury or death.

- Place the unit on a firm surface where footing is solid, rigid and capable of carrying the maximum intended load without slipping.
- Do not place the unit on snow, ice, loose gravel, mud, leaves or other slippery surfaces. Be sure the vertical strongback channel, foot and base clips are properly secured to avoid slipping.
- Do not place boxes, ladders or other scaffolding on top of the plank to gain additional height.
- This unit IS NOT to be used independent of a rated plank or stage.
- Be sure all locking devices are secure.
- Do not use the unit beyond a plank height of 6mtrs off the ground or floor.
- Always store in a clean, dry place.
- WARNING: All accessories must be installed in accordance with the manufacturers recommended procedure.
- This product MEETS OR EXCEEDS ESTABLISHED OSHA REQUIREMENTS.

Wind Resistance
The **Panel Jack Pro System** is designed and engineered to resist wind loads form winds of up to 40 mph. Normal construction limits the potential wind resistance to that which foundation resistance will allow. When used to provide wind bracing where the strut is staked to soil, the brace unit shall be installed on two sides of the wall. The mass of normal strip footings available to resist wind uplift limits safe occupancy of the scaffold to concurrent winds of 40 mph. Where scaffold members are anchored to soil, at wind speeds in excess of 40 mph the scaffold should be abandoned.
Where the competent founding materials are available to develop anchor loads, the brace may be installed on one side only.

Storage and transport

The longevity of the Reechcraft bracing system also depends on the storage and handling of the component parts when not in use or being transported.

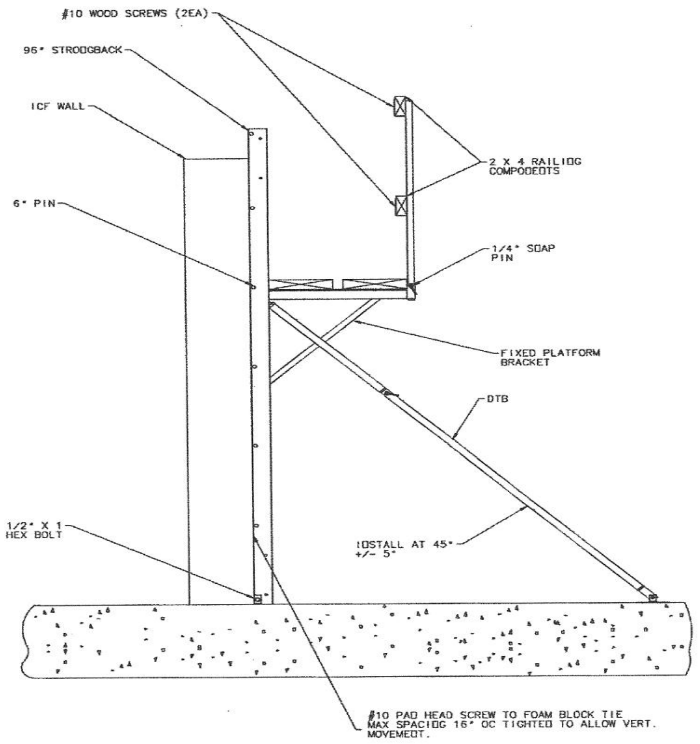
Considerations for storage:

- Suitable strong racking which are in a dry environment
- Orientation of the component parts to minimize space required
- Easy placement and removal of parts to avoid snagging
- Lightly oil parts to protect and maintain functionality

A little extra time taken to properly rack or transport the parts will save considerable time overall and help prevent possible injury from snagging of parts against each other. The pictures show racking ideas that have proved to work well.

Notice orientation of parts and placement of wood spacer blocks

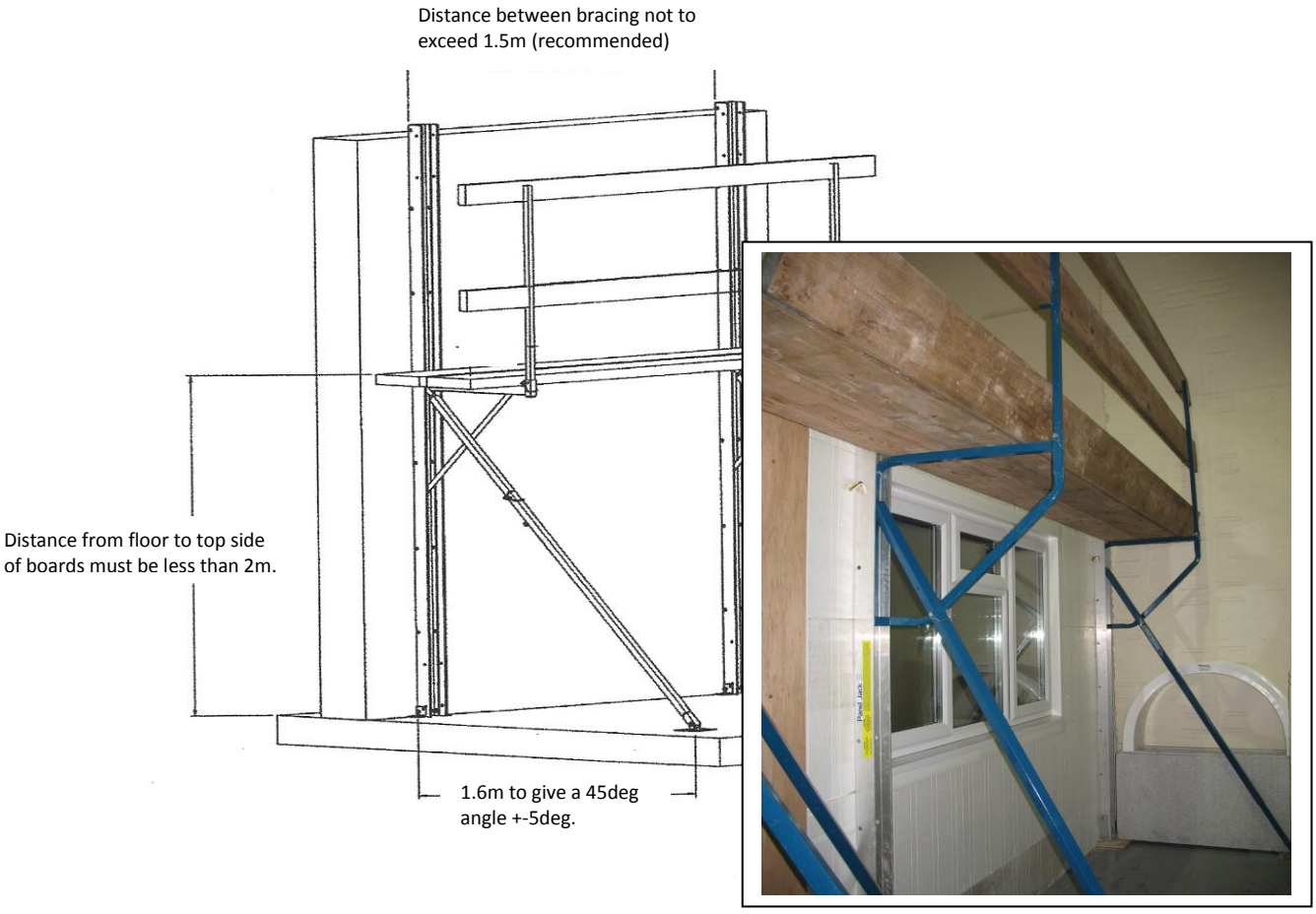
Application and Design


#10 WOOD SCREWS (2EA)
96" STRODGBACK
ICF WALL
6" PIN
2 X 4 RAILIDG COMPODEDTS
1/4" SDAP PIN
FIXED PLATFORM BRACKET
DTB
1/2" X 1 HEX BOLT
!DSTALL AT 45° +/- 5°
#10 PAD HEAD SCREW TO FOAM BLOCK TIE MAX SPACIDG 16" OC TIGHTED TO ALLOW VERT. MOVEMEDT.

Design Standards

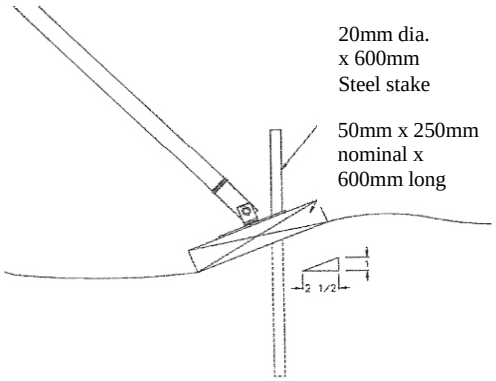
The **Panel Jack Pro System** is designed to meet ASD and Aluminium Design Manual 2000 requirements when installed as indicated and to withstand 40mph winds.
The manufacturer has given the **Panel Jack Pro System** a 300lb working load limit per unit. In compliance with the Occupational Safety and Health Administration (OSHA) a safety factor of 4x has been met under the controlled test environment.

2.4mtr Panel Jack Pro System


Distance between bracing not to exceed 1.5m (recommended)
Distance from floor to top side of boards must be less than 2m.
1.6m to give a 45deg angle +-5deg.

If the distance from the ground to the top side of the boarding is greater than 1.8m, a toe board should be used (see picture)

Anchoring Detail

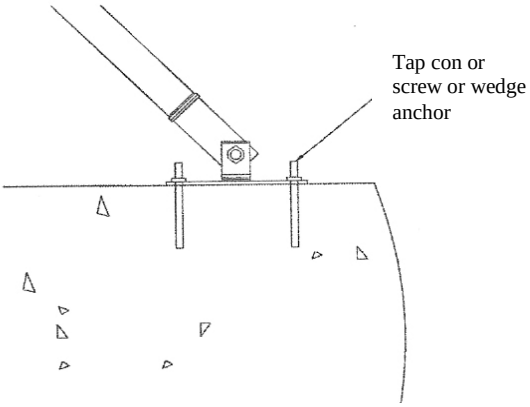


Anchoring Adjustable Brace to Soil

Prepare soil to support strut base plate
Except in dense soils, provide bearing planks to support strut load. Planks should be 50mm x 250mm (nominal) in cross section and 600mm minimum in length securely staked to the ground.

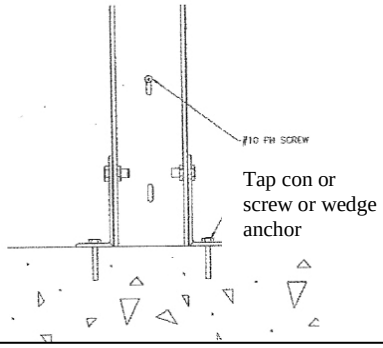
Anchoring Adjustable Brace to Concrete Slab

Provide two anchors at leading edge. Each anchor to have a safe working rated resistance of 182kg in pull out and shear.
Scaffold may be used to resist wind on the scaffold side of the wall. Provide two anchors at trailing edge when used to resist wind in two directions.
Base must have sufficient mass to prevent uplift of 450kg. and similar loads.



Strong Back Anchor

Provide two anchors at base. Each anchor to have a safe working rated resistance of 182kg in pull out and shear.



Do not use Hilti® or other fired nails into the feet because the bracing is often damaged when dismantling where the nails are difficult to remove from the concrete or the bracing system. The bracing should be returned (off hired) in the condition it was hired otherwise extra costs may be incurred.